



University of Petra		 جامعة البتراء - خمسة وعشرون عاما University of Petra Anniversary
Faculty of Art & Science		كلية الآداب والعلوم
Department of Chemistry		قسم الكيمياء

## Course Syllabus

Year : 2019 / 2020

Semester: First

Course No.	Course Title	Prerequisite	Co-requisite	Credit Hours Lectures / Lab.	ECTS: European Credit Transfer System
101312	Organic Chemistry Lab. (ii)	101213	None	3	5

Instructor Name	e-mail	Office No.	Office ext.	Office Hours
Hadeel Al-Sinjilawi	halsinjlawi@uop.edu.jo	7203	7203	Sun., Tue., Thu. 10 -12,

<b>Course Description</b>	This course introduces additional techniques of separating organic mixtures, as well as, systematic identification of organic compounds based on their: physical, chemical and spectral properties. This course is designed to augment organic chemistry 101213.
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### Course Objectives

1. To instill in students a sense of enthusiasm for organic chemistry, an appreciation of its application in different contexts and to involve them in an intellectually stimulating and satisfying experience of learning and studying.
2. To develop in students the ability to apply their chemical knowledge and skills to the solution of theoretical and practical problems in chemistry.
3. To provide students with a knowledge and skills base from which they can proceed to further studies in specialized areas of organic chemistry or multi-disciplinary areas involving organic chemistry.
4. To generate in students an appreciation of the importance of organic chemistry in an industrial, economic, environmental and social context.

### Course Intended Learning Outcomes (ILOs) and their Alignment with Program ILOs:

Upon successful completion of this course, students are expected to achieve the following learning outcomes

Course ILOs	Program ILOs	Teaching and Learning Method	Assessment Method
Demonstrate knowledge and understanding of essential facts and perform experiments that related to all experiments mentioned in the laboratory manual.	K (1)	Lecture by teacher, Class discussion and Perform an experiment	In-lab activities, quizzes and assignments
Estimate chemical data by performing calculations related to all experiments mentioned in the laboratory manual.	I (2)	Lecture by teacher, Class discussion and Perform an experiment	In-lab activities, quizzes and assignments
Use of laboratory equipment and standard procedures & safely.	P (1)	Lecture by teacher, Class discussion and Perform an experiment	In-lab activities, quizzes and assignments
Appreciate the importance of carrying out careful and precise measurements to generate reliable data.	P (2)	Lecture by teacher, Class discussion and Perform an experiment	In-lab activities, quizzes and assignments
Prepare and separate compounds and analyze substances.	P (3)	Lecture by teacher, Class discussion and Perform an experiment	In-lab activities, quizzes and assignments
Prepare scientific reports and make oral presentations.	P (4)	Lecture by teacher, Class discussion and Perform an experiment	In-lab activities, quizzes and assignments
Communication skills, covering both written and oral communication.	T(1)	Lecture by teacher, Class discussion and Perform an experiment	In-lab activities, quizzes and assignments

### Course Schedule:

Week	Topics	Topic Details	Course ILO number	Reference
1	<b>Introduction : Safety and Laboratory Rules</b>	Explain the safety and laboratory rules which the student dealt with.	All	Textbook
2	<b>Preparation of benzoin, benzil and benzilic acid.</b>	a. Preparation of benzoin. b. Preparation of benzil. c. Rearrangement to benzilic acid.	All	Textbook

3	<b>p-Halotoluene from p-aminotoluene.</b>	b-Preparation of p-iodotoluene from p-toluidine.	All	Textbook
4	<b>Cannizzaro reaction</b>	Preparation of benzylalcohol and benzoic acid from benzaldehyde.	All	Textbook
5	<b>Tests</b>	Chemical tests of functional groups and qualitative elemental analysis	All	Textbook
6	<b>Unknown 1</b>	Identification of a carboxylic acid : tests, titration and neutralization equivalent.		
7	<b>Unknown 1</b>	Identification of a carboxylic acid : tests, titration and neutralization equivalent.	All	Textbook
8	<b>Midterm Exam</b>	<b>Midterm Exam</b>	All	Textbook
9	<b>Spectroscopic methods</b>	spectroscopic methods (Ir, NMR) and structure elucidation of organic compounds	All	Textbook
10	<b>Unknown 2</b>	Identification of unknown 2 using classification tests and spectroscopic methods.	All	Textbook
11	<b>Unknown 2</b>	Identification of unknown 2 using classification tests and spectroscopic methods.	All	Textbook
12	<b>Unknown 3, Mixture (three components)</b>	Separation of a mixture to its components.		
13	<b>Unknown 3, Mixture (three components)</b>	Identification of each component of the mixture using classification tests and spectroscopic methods.	All	Textbook

#### **Assessment Methods and Grading System:**

Assessment method	Date	Grade	Comments
Midterm Exam		20	- All Exams are done on - line (electronic). - Every student should bring his own scientific calculator when entering the exam lab. Calculators are not allowed to be exchanged between students during exam. - Students are not allowed to carry their mobiles inside exam lab.
Reports		30	
Evaluation		10	
Practical Quiz		10	
Final Exam		30	
<b>Total</b>		<b>100</b>	

#### **Learning References:**

<b>1- Textbook (s):</b>
<ol style="list-style-type: none"> <li>1. Selected Experiments in Organic Chemistry, 2nd edition, Abdelnour, Qasem and Zahra.</li> <li>2. The Systematic Identification of Organic Compounds, 7th edition, Shriner, Fuson, Curtin and Morrill.</li> </ol>
<b>2- Other Resources:</b>
<< a lecture rooms with data show facility >>

## **Course Policies<sup>1</sup>**

- Attendance Policy: University regulations apply to attendance.
- Academic Honesty: Academic dishonesty is an unacceptable mode of conduct, and will not be tolerated in any form at University of Petra. All persons involved in academic dishonesty and plagiarism in any form will be disciplined in accordance with University rules and regulations.

<b>Approved by</b>	<b>Name</b>	<b>Date</b>	<b>Signature</b>
<b>Coordinator of Curriculum Committee</b>	Dr. Abdelmnim Altwaiq	24/10/2019	
<b>Faculty Dean/ Head of Department</b>	Prof. Rami Abdel-Rahem	24/10/2019	

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<sup>1</sup> Additional information may be added in this section according to the nature of the course.